

IDENTIFICATION OF JUVENILES OF THE PRAWNS
PENAEUS MONODON FABRICIUS AND *P. INDICUS* H.M. EDWARDS

by

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ABSTRACT

Certain characteristics, i.e. a red streak on the ventral side of the body, colouration of body, size of eyes and eye-stalks and number of rostral teeth have been found to be useful aids for easy identification of juveniles of the prawns, *Penaeus monodon* and *P. indicus*, which are the most important species for culture in brackishwater impoundments of India.

INTRODUCTION

The possibilities for the development of prawn farming in both fresh and brackishwater impoundments in India have come into prominence in the context of enhanced fish production in the country. One of the main aspects requiring detailed investigation in this connection is the availability of seed of the commercially important prawns from natural sources. Identification of live prawn juveniles in the field is an important prerequisite in such studies. Characters for differentiating the young ones of important table prawns of Indian freshwater habitats are available (Raman, 1964; Rao, 1967). Of the penaeid prawns, *Penaeus monodon* and *P. indicus* are the most important from the culture point of view, due to their availability throughout the brackishwater areas of the country and their attaining big sizes of about 300 and 200 mm total length respectively. Several workers have studied the biology, physiology and fisheries of these two species of prawns (Panikkar, 1952; Gopalakrishnan, 1957; George, 1962; Menon 1965; Subrahmanyam, 1965). However, the identification of the juveniles of these species has been very difficult. Williams (1953) reported some distinguishing characters relating to rostrum shape and tail fan colouration, useful in the routine identification of juveniles of three species penaeid prawns of North Carolina. During the course of prawn seed prospecting investigations conducted by the Central Inland Fisheries Research Institute during January and February 1968, certain specific characters which will help in identification of live juveniles of both the species were observed and they are described in the present account.

MATERIAL

The material for the study was obtained from shooting net collections made in the Rupnarayan river and associated canals, of the Hooghly Estuary at Kolaghat, West Bengal. From composite collections containing prawn juveniles of different sizes it was possible to trace the identification characters.

IDENTIFICATION CHARACTERS

The presence of both ventral and dorsal teeth on rostrum, visible to the naked eye from later juvenile stages, distinguishes the genus *Penaeus* from other penaeid genera *Metapenaeus* and *Parapenaeopsis*. Juveniles of *P. monodon* can be readily distinguished from those of *P. indicus* as well the other commercially important penaeids by the presence of a red streak that passes all along the ventral side of the body (upto 14 mm in total length) from the rostrum to the tip of the telson (Fig. 1). The colouration is seen in the antennule also. In slightly bigger individuals (15 to 20 mm total length), the colouration of the streak progressively changes into pink and then green. By about 20 mm length the pink and green colouration spreads to the entire body, with the streak prominent on the ventral side. In longer specimens, the colouration of the entire body becomes greenish. *P. indicus*, on the other hand, is more or less transparent in the early juvenile stages but from about 25 mm onwards, the tip of the rostrum becomes tinged slightly red or pink.

The eyes of *P. indicus* juveniles are generally bigger in size with slightly longer eye-stalks, as compared with those of *P. monodon* (Fig. 2). This is an additional confirmatory character for separation of live juveniles (10-20 mm size) of the two prawns in the field.

In *P. indicus* juveniles of 10 mm length onwards 4 or more ventral teeth are normally discernable, while in *P. monodon*, they may be only 2 in number till 20 mm stage, when the third also is formed. However, in some specimens of both the species, either the ventral teeth were absent or only one tooth present in juveniles upto about 15 mm. These may be considered as exceptions. The rostrum of *P. indicus* juveniles were found to be comparatively longer than that of *P. monodon*.

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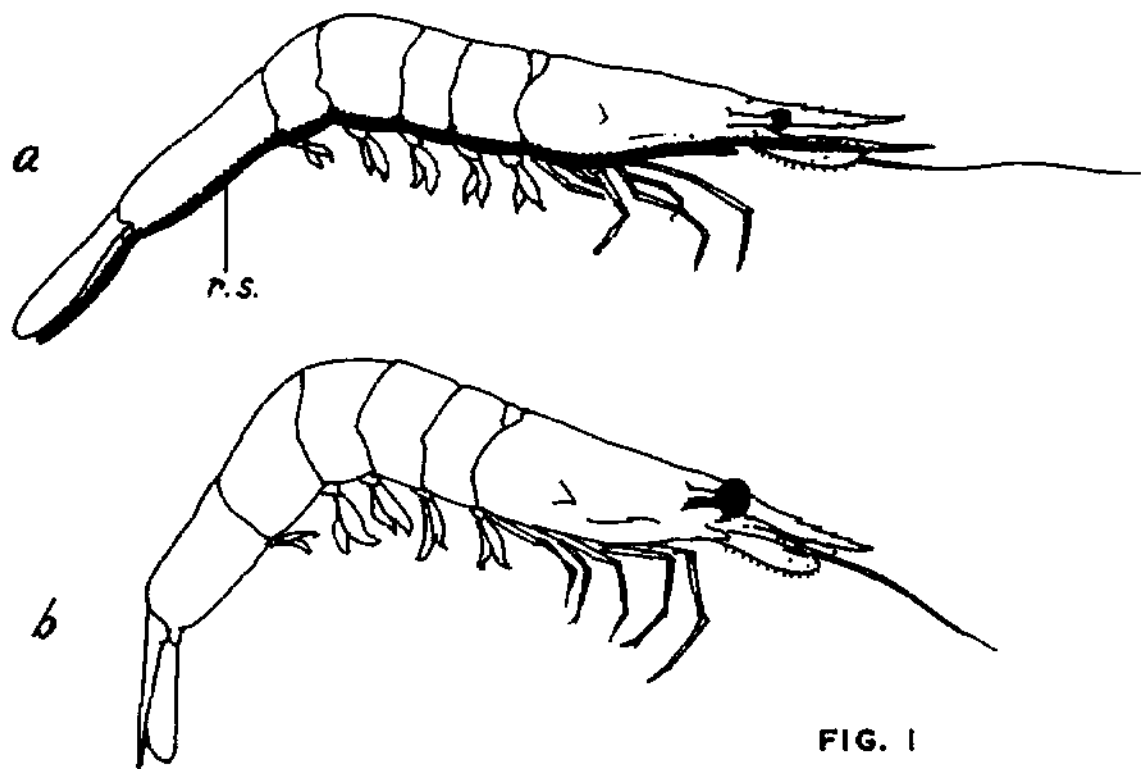


FIG. 1

Lateral View of *P. monodon* and *P. indicus* juveniles.

a. *P. monodon*

b. *P. indicus*

r.s. - red streak

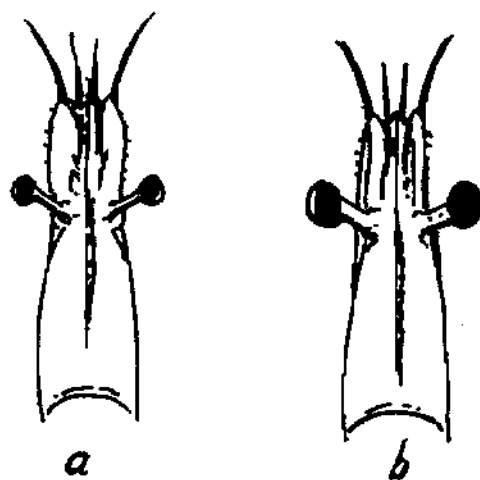


FIG. 2

Diagram to Show the Comparative Sizes of Eyes and Eye-stalks
in *P. monodon* and *P. indicus*

a. *P. monodon*

b. *P. indicus*